

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.	:	10/798,620	Confirmation No.	6177
Appellant	:	Richard D. Lane		
Filed	:	March 10, 2004		
Art Unit	:	2421		
Examiner	:	Christopher L. Parry		
Docket No.	:	030072		
Customer No.	:	23696		

**REPLY BRIEF**

Board of Patent Appeals and Interferences  
Commissioner for Patents  
Alexandria, VA 22313-1450

Sir:

This is a Reply Brief in relation to an Appeal from a Final Office Action mailed on March 14, 2011, rejecting claims 1-15, 17, 18, 20-30, 32, 34-40, 42-54, 56, 58-64, 66-81, 84-86, 88-94, 96, 98-102, 105, 106, 108-112, and 115-133, the Advisory Action mailed on July 1, 2011, affirming the rejection of those claims, and the Examiner's Answer mailed December 30, 2011 responding to Applicant's Appeal Brief filed August 12, 2011.

## **TABLE OF CONTENTS**

## **Page**

Real Party in Interest.....	3
Related Appeals and Interferences.....	3
Status of Claims .....	3
Status of Amendments .....	4
Summary of Claimed Subject Matter .....	5
Grounds of Rejection to be Reviewed on Appeal .....	6
Argument .....	7
First Ground of Rejection .....	7
Conclusion of Argument.....	18
Claims Appendix .....	19
Evidence Appendix .....	54
Related Proceedings Appendix .....	55

## **REAL PARTY IN INTEREST**

The real party in interest is QUALCOMM Incorporated, the assignee of the entire interest.

## **RELATED APPEALS AND INTERFERENCES**

There are no related appeals, interferences or judicial proceedings for the above-referenced patent application.

## **STATUS OF CLAIMS**

Claims 1-15, 17, 18, 20-30, 32, 34-40, 42-54, 56, 58-64, 66-81, 84-86, 88-94, 96, 98-102, 105, 106, 108-112, and 115-133 are the subject of this Appeal (Appendix 1, Claims).

Claims 1-2, 5, 7-12, 14, 17, 20-23, 25-26, 29, 32, 35-36, 38, 42, 44-47, 49-50, 53, 56-60, 62, 66, 68-71, 73-74, 77, 79-81, 84-86, 91, 93-94, 96-97, 101-102, 105-106, 111-112, 115-118, 122 and 124-133 stand rejected under 35 USC § 103(a) as being unpatentable over Christopoulos et al. (US 2001/0047517; hereinafter “Christopoulos”) in view of Kost et al. (US 2002/0154691; hereinafter “Kost”), Short et al. (US 6,789,110; hereinafter “Short”) and Mantha et al. (US 2004/0023622; hereinafter “Mantha”).

Claims 3-4, 24, 27-28, 48, 51-52, 72, 75-76, 88-90, 98-100, 108-110 and 119-121 stand rejected under 35 USC § 103(a) as being unpatentable over Christopoulos, Kost, and Short, and Mantha, and in further view of Vetro et al. (US 2004/0203851; hereinafter “Vetro”).

Claims 6, 30, 54 and 78 stand rejected under 35 USC § 103(a) as being unpatentable over Christopoulos, Kost, Short and Mantha as applied to claims 2, 26, 50 and 74 above, and in view of Wang et al. (US 2002/0152317; hereinafter “Wang”).

Claims 13, 15, 37, 39-40, 61, and 63-64 stand rejected under 35 USC § 103(a) as being unpatentable over Christopoulos, Kost, Short and Mantha, and in further view of Anand et al. (US 6,920,179; hereinafter “Anand”).

Claims 18, 43 and 67 stand rejected under 35 USC § 103(a) as being unpatentable over Christopoulos, Kost, Short and Mantha as applied to claims 1, 42, and 66 in view of Patterson (US 6,018,369; hereinafter “Patterson”) and Tsukagoshi (US 5,731,847; hereinafter “Tsukagoshi”).

Claims 92 and 123 stand rejected under 35 USC § 103(a) as being unpatentable over Christopoulos, Kost, Short and Mantha as applied to claims 14, 38, 62, 81, and 112.

**STATUS OF AMENDMENTS**

No claim amendments have been submitted after the Final Office Action was mailed on August 5, 2010.

### **SUMMARY OF CLAIMED SUBJECT MATTER**

Appellant directs the Appeal Board to the summary of claimed subject matter presented in the Appeal Brief filed August 12, 2011.

## **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

Appellant submits the following grounds of rejection to be reviewed on Appeal:

- (1) Rejection of claims 1–2, 5, 7–12, 14, 17, 20–23, 25–26, 29, 32, 35–36, 38, 42, 44–47, 49–50, 53, 56–60, 62, 66, 68–71, 73–74, 77, 79–81, 84–86, 91, 93–94, 96–97, 101–102, 105–106, 111–112, 115–118, 122 and 124–133 under 35 USC § 103(a) as being unpatentable over Christopoulos et al. (US 2001/0047517; hereinafter “Christopoulos”) in view of Kost et al. (US 2002/0154691; hereinafter “Kost”), Short et al. (US 6,789,110; hereinafter “Short”) and Mantha et al. (US 2004/0023622; hereinafter “Mantha”).
- (2) Rejection of claims 3–4, 24, 27–28, 48, 51–52, 72, 75–76, 88–90, 98–100, 108–110 and 119–121 under 35 USC § 103(a) as being unpatentable over Christopoulos, Kost, and Short, and Mantha, and in further view of Vetro et al. (US 2004/0203851; hereinafter “Vetro”).
- (3) Rejection of claims 6, 30, 54 and 78 under 35 USC § 103(a) as being unpatentable over Christopoulos, Kost, Short and Mantha as applied to claims 2, 26, 50 and 74 above, and in view of Wang et al. (US 2002/0152317; hereinafter “Wang”).
- (4) Rejection of claims 13, 15, 37, 39–40, 61, and 63–64 under 35 USC § 103(a) as being unpatentable over Christopoulos, Kost, Short and Mantha, and in further view of Anand et al. (US 6,920,179; hereinafter “Anand”).
- (5) Rejection of claims 18, 43 and 67 under 35 USC § 103(a) as being unpatentable over Christopoulos, Kost, Short and Mantha as applied to claims 1, 42, and 66 in view of Patterson (US 6,018,369; hereinafter “Patterson”) and Tsukagoshi (US 5,731,847; hereinafter “Tsukagoshi”).
- (6) Rejection of claims 92 and 123 under 35 USC § 103(a) as being unpatentable over Christopoulos, Kost, Short and Mantha as applied to claims 14, 38, 62, 81, and 112.

## **ARGUMENT**

Appellant respectfully replies to the Examiner's Answer mailed December 30, 2011. Appellant disagrees with the assertions presented in the Examiner's Answer, and requests reversal by the Board of Patent Appeals based on the arguments below. The applied references fail to disclose or suggest features of Appellant's claims. Several different sets of claims were presented under separate headings in Appellant's Appeal Brief filed on August 12, 2011. Appellant maintains these headings below to the extent arguments are presented under each of these headings. Appellant continues to request review of each of the different sets of claims presented under the separate headings.

### **FIRST GROUND OF REJECTION UNDER APPEAL**

The Final Office Action maintained the rejection of claims 1-2, 5, 7-12, 14, 17, 20-23, 25-26, 29, 32, 35-36, 38, 42, 44-47, 49-50, 53, 56-60, 62, 66, 68-71, 73-74, 77, 79-81, 84-86, 91, 93-94, 96-97, 101-102, 105-106, 111-112, 115-118, 122 and 124-130 under 35 USC § 103(a) as being unpatentable over Christopoulos et al. (US 2001/0047517; hereinafter "Christopoulos") in view of Kost et al. (US 2002/0154691; hereinafter "Kost"), Short et al. (US 6,789,110; hereinafter "Short") and Mantha et al. (US 2004/0023622; hereinafter "Mantha"). Appellant argues claims 1-2, 5, 7, 9-12, 14, 17 and 20-23 as a first group, claim 8 separately as a second group, claims 25-26, 29, 32, 35-36, 38, 42 and 44-47 as a third group, claims 49-50, 53, 56-60, 62, 66 and 68-71 as a fourth group, claims 73-74, 77 and 79 as a fifth group, claim 80 separately as a sixth group, claims 81, 84-86 and 91 as a seventh group, claims 93-94, 96-97 and 101 as an eighth group, claims 102, 105-106 and 111 as a ninth group, claims 112, 115-118, 122 and 124-131 as a tenth group, claim 132 as an eleventh group and claim 133 as the twelfth group.

#### ***Claims 1-2, 5, 7, 9-12, 14, 17 and 20-23 (Group 1)***

Appellant continues to argue claims 1-2, 5, 7, 9-12, 14, 17 and 20-23 as a group, directing the Board to independent claim 1 as the claim representative of the group. Appellant's independent claim 1 recites an apparatus operable in a wireless communication system. According to claim 1, the apparatus comprises a customer manager to determine a first user

preference for selective re-encoding of a multimedia stream for a first user and a second user preference for selective re-encoding of the multimedia stream for a second user. The apparatus of claim 1 also comprises an encode manager included within wireless service provider equipment of the wireless communication system that receives the multimedia stream and selects at least one of a plurality of encoding parameter sets for each of the first and second user preferences in accordance with an encoding scheme. The encoding scheme includes a first scheme based on the first user preference and a second scheme based on the second user preference. The multimedia stream includes a plurality of different types of data. The plurality of encoding parameter sets include a first encoding parameter set for encoding only a first type of the plurality of types of data, a second encoding parameter set for encoding only a second type of the plurality of types of data different from the first type, a third encoding parameter set for encoding only a third type of the plurality of types of data different from the first and second types and a fourth encoding parameter set for encoding multiple types of the plurality of types of data. The first user preference and the second user preference each indicates which of the first, second, third and fourth encoding parameter sets to use when encoding the multimedia stream.

Claim 1 also requires that the apparatus comprise an encoder system included within the wireless service provider equipment for selectively re-encoding the received stream using the selected one of the plurality of encoding parameter sets to output an encoded stream with principles set fourth by the selected one of the plurality of encoding parameter sets. The first user preference specifies a first demand to provide the multimedia stream at a lower quality of service and a lowest billing rate, and the second user preference specifies a second demand to provide the multimedia stream at a higher quality of service and a higher billing rate relative to the first demand. In response to the first user preference, claim 1 also requires that the encode manager select one of the plurality of encoding parameter sets that provides a high rate of compression and the lower quality of service at the lowest billing rate, and in response to the second preference, the encoder manager selects one of the plurality of encoding parameter sets that provides the higher quality of service at the higher billing rate.

In the Appeal Brief filed August 12, 2011, Appellant demonstrated that the asserted combination resulting from considering Christopoulos in view of Kost, Short and Mantha fails to teach or suggest the four different encoding parameter sets required by claim 1. Appellant noted that Christopoulos only encodes two different types of data, video data and image data. The



Examiner agreed that Christopoulos does not teach this feature of claim 1 in the Office Action dated August 5, 2010 (as well as the current Final Office Action). The previous Office Action dated August 5, 2010 (and the current Office Action) cited Kost to overcome this deficiency of Christopoulos, alleging that Kost discloses an encoding set to encode audio data and an encoding set to encode both video and audio data. Appellant disagreed, reiterating in the Appeal Brief that the portion of Kost cited in the Office Action (i.e., paragraph [0084]) has been misconstrued as teaching or suggesting this feature of Appellant's claim 1.

To illustrate, Appellant demonstrated in the Appeal Brief that the portion of Kost relied on in the Examiner's Answer to support the rejection of this feature of claim 1, i.e., paragraph [0084], has been misconstrued and, in fact, does not support the position presented in the Examiner's Answer. Paragraph [0084] of Kost indicates that "in addition to the video, the audio **12b** may be encoded." (Emphasis in original) While the previous and current Office Action construed this portion of Kost to suggest that there is an encoding parameter set for encoding audio and video and another for encoding the audio, Kost makes clear throughout its entirety that the Kost system typically encodes *both* the audio and video (*see, e.g.,* FIG. 1), except for this portion of paragraph [0084], which suggests that the audio data *may* be encoded. Kost, however, always encodes the video data, and may or may not encode the audio data. Yet, nothing in this portion of Kost suggests that audio data is encoded while the video data is not encoded. Instead, Kost makes it clear that the video data is always encoded and the audio data may or may not be encoded.

Appellant concluded this demonstration by noting that Christopoulos in view of Kost would at most only suggest the following parameter sets: 1) one to encode video data as discussed in Christopoulos; 2) one to encode image data as discussed in Christopoulos; 3) one to encode video data as discussed in Kost; and 4) one to encode both video and audio data as discussed in Kost. Yet, Kost overlaps Christopoulos in that both describe encoding video data, leaving only three types of encodings, which does not teach or suggest the four parameter sets required by claim 1. As none of the other applied prior art references teach or suggest this feature of claim 1, the applied references clearly fail to teach or suggest this feature of claim 1 requiring that the plurality of encoding parameter sets include a first encoding parameter set for encoding only a first type of the plurality of types of data, a second encoding parameter set for encoding only a second type of the plurality of types of data different from the first type, a third

encoding parameter set for encoding only a third type of the plurality of types of data different from the first and second types and a fourth encoding parameter set for encoding multiple types of the plurality of types of data..

The Examiner's Answer once again disagrees with Appellant's clear demonstrations of the deficiencies of the applied references. The Examiner's Answer summarized Appellant's showing as "Kost fails to disclose a third encoding parameter set for encoding only a third type of the plurality of types of data and forth encoding parameter set for encoding multiple types of the plurality of types of data." On page 64, the Examiner's Answer then proceeded to reiterate the basis of the rejection, noting that Christopoulos discloses encoding two different types of data, video and image. The Examiner's Answer continued on page 64 to then discuss Kost, asserting that paragraphs [0017] and [0059] of Kost disclose a system that may utilize a highly modified audio CODEC for audio encoding. The Examiner's Answer then indicated that this portion of Kost was assumed to teach or suggest the third parameter set required by Appellant's claim 1. Appellant disagrees.

The Examiner's Answer has failed to consider Kost in its entirety, i.e., as a whole, as required by MPEP 2141.02. MPEP 2141.02 is clear in requiring that Examiners consider a prior art reference in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention in order to adhere to the holding of the Federal Circuit in *W.L. Gore & Associates, Inc. v. Garlock, Inc.* 721 F.2d 1540, 220 USPQ 303 (1983), *cert. denied*, 469 U.S. 851 (1984). While Kost describes a modified audio CODEC for audio encoding in paragraph [0017], Kost is clear in stating and showing (*see, e.g., FIG. 1*) that the video data is always encoded and the audio data may be encoded with the video data or may not be encoded at all (*see, e.g., the above noted paragraph [0084]*). When properly considered in its entirety according to the clear mandate of MPEP 2141.02, Kost only discusses encoding video data or encoding both video and audio data, and does not teach or suggest encoding audio data alone, contrary to the assertions presented in the Examiner's Answer. Consequently, the Examiner's Answer has failed to consider Kost in its entirety contrary to the clear mandate presented in MPEP 2141.02 and required by the holding in the *W.L. Gore* Federal Circuit case.

Additionally, on page 64, Examiner's Answer continued to address Appellant's demonstration by asserting that Kost suggests that the video and audio could be encoded together or at the very least using the same encoding parameter set by suggesting that the audio data may

be encoded differently than the video data. The Examiner's Answer then concluded that Christopoulos in view of Kost discloses the four parameter sets required by claim 1. Again, Appellant disagrees for the reasons noted above. Christopoulos in view of Kost discusses encoding at most two different types of data and encoding both audio and video data, which does not teach or suggest the four different parameter sets required by claim 1.

With respect to claim 1, Appellant also showed in the Appeal Brief how none of the applied references, and particularly, Christopoulos teach or suggest an encoder system included within the wireless service provider equipment for selectively re-encoding the received stream, as required by claim 1. Instead, Christopoulos discloses techniques that always re-encode multimedia data (where Appellant originally reproduced FIG. 3 of Christopoulos in support of this showing). The Examiner's Answer disagreed on page 65, generally asserting that the term "selectively" does not necessarily imply that the stream is either encoded or not encoded. Instead, according to page 65 of the Examiner's answer, the term "selectively re-encoding" can be interpreted as meaning that "selected streams are encoded in selected formats." Appellant disagrees.

First, the position taken in the Examiner's Answer that the term "selectively re-encoding" can be interpreted as meaning that "selected streams are encoded in selected formats" is consistent with Appellant's demonstration and is wholly unsupported by Christopoulos. Christopoulos does not select which streams are encoded in selected formats because, as noted in Appellant's Appeal Brief, Christopoulos always re-encodes any stream it receives and provides no teaching to suggest (and, in fact, teaches away from) encoding *select* streams in the manner asserted by the Examiner. Appellant assumes that the Examiner intended to indicate that selectively re-encoding can be construed to mean re-encoding streams in selected formats, which is more consistent both with Christopoulos and the overall argument presented in the Examiner's Answer. Appellant traverses the argument under this assumption.

Second, the position assumed by Appellant to be taken in the Examiner's Answer provides no evidence to suggest that the Examiner construed this term in the manner required by MPEP 2111. MPEP 2111 states that, "[d]uring patent examination, the pending claims must be 'given their broadest reasonable interpretation consistent with the specification'" (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005)). In an Amendment dated

June 17, 2009, Appellant provided the following discussion of the amendment to claim 1 to clarify how the encoding may be considered as selective:

As a result of these amendments, the techniques set forth by claim 1 may enable selective re-encoding of only one type of data included within a multimedia stream. To illustrate this aspect of the techniques, consider paragraph [0026] of Applicant's specification, which provides one example application of the techniques. In paragraph [0026], the multimedia stream may include three different types of data, audio, video and text data. A user however may not wish to view the video or text but may still want to listen to the audio portion of the stream. The user, according to paragraph [0026] may indicate this through user preferences, which the customer manager may communicate to the encode manager. The encode manager, again as described in paragraph [0026], may then start an audio-only encoding parameter set, which may significantly reduce bandwidth consumption for this multimedia stream for this specific user.

Yet, rather than look to Appellant's specification (and particularly, the portions noted above) to support the construction of this feature of claim 1, the Examiner's Answer presented a construction of this feature wholly inconsistent with that which one of skill in the art would have arrived at after considering this term in view of Appellant's specification. In view of the above noted paragraphs of Applicant's specification, one of skill in the art would have construed the term "selectively re-encoding" to mean that different types of the multimedia data may be encoded while other types of the multimedia data are not encoded and not, as asserted in the Examiner's Answer, that streams are encoded in selected formats. By presenting a position that does not adhere to the requirements of MPEP 2111 (and the *Phillips* ruling), the Examiner's Answer failed to present a *prima facie* showing of non-patentability with respect to this feature of claim 1.

None of the portions of Kost, Short and Mantha on which the Office Action relies in rejecting this feature of claim 1 overcome this deficiency of Christopoulos. Consequently, the combination resulting from Christopoulos in view of Kost, Short and Mantha fails to teach or suggest this feature of claim 1 requiring an encoder system included within the wireless service provider equipment for selectively re-encoding the received stream.

For at least these additional reasons, the Examiner's Answer failed to rebut the clear demonstrations in Appellant's Appeal Brief that Christopoulos in view of Kost, Short and Mantha fails to teach or suggest the features of claims 1-2, 5, 7, 9-12, 14, 17 and 20-23.

### *Claim 8 (Group 2)*

Appellant argues claim 8 under a separate heading. Claim 8 recites the apparatus of claim 1, where the encoder system further re-encodes the received stream by re-encoding the decoded stream using the selected one of the plurality of encoding parameter sets for each of the first and second users to output the encoded stream differently for each of the first and second users with principles set forth by the respective encoding parameter set. That is, currently amended claim 8 requires encoding the same stream to output two different encoded streams for each of the first and second users. In the Appeal Brief, Appellant demonstrated that nothing in any of the applied references teaches or suggests this feature of claim 8.

In particular, Appellant showed that the paragraphs [0036]-[0038] and [0046] of Christopoulos cited in support of the rejection of claim 8 in conjunction with FIGS. 3 and 5 of Christopoulos make no reference to transcoding the multimedia data twice to output two different encoded streams for two different users. At most, Appellant noted in the Appeal Brief that Christopoulos describes application of the Christopoulos techniques with respect to a single client. Considering that the remaining portions of the other applied references, i.e., Kost, Short and Mantha, relied on by the Office Action do not overcome this deficiency, even when considering in view of Christopoulos, Appellant concluded that none of the applied references teach or suggest this feature of claim 8.

The Examiner's Answer disagreed, noting that paragraph [0036] of Christopoulos discloses transcoder hints that are used by a transcoder to selectively reformat the multimedia in accordance with client capabilities, user preferences, and/or network characteristics. The Examiner's Answer continued, explaining that paragraphs [0037] and [0038] of Christopoulos discuss how the transcoder, in response to a multimedia request, acquires corresponding transcoder hints to facilitate transcoding the multimedia data, which it then uses to re-encode the decoded stream. According to the position presented in the Examiner's Answer, because the transcoder hints may be used to reformat the multimedia in accordance with client capabilities and/or user preferences, it allegedly follows then that the multimedia data may be selectively re-encoded differently with respect to the transcoder hints defined for two different users. The Examiner's Answer concluded the position asserting that these portions of Christopoulos teach or suggest the encoder system of claim 8 that further re-encodes the received stream by re-encoding the decoded stream using the selected one of the plurality of encoding parameter sets

for each of the first and second users to output the encoded stream differently for each of the first and second users with principles set forth by the respective encoding parameter set. Appellant disagrees.

Christopoulos teaches transcoding multimedia packets according to transcoder hints associated with the multimedia packets, which does not teach or suggest this feature of claim 8. Claim 8 requires re-encoding the decoded stream using the selected one of the plurality of encoding parameter sets for each of the first and second users to output the encoded stream differently for each of the first and second users with principles set forth by the respective encoding parameter set. In other words, claim 8 requires that the same decoded stream is re-encoded differently for each of the first and second users using the selected one of the plurality of encoding parameter sets for each of the first and second users. Christopoulos, however, discusses how each multimedia packet is associated with its own transcoder hints with the result that each multimedia packet is transcoded in only one way, i.e., in accordance with the transcoder hints provided by the server (as explained in more detail in paragraph [0037] of Christopoulos). The same decoded stream then cannot be re-encoded in multiple different ways. Instead, Christopoulos would require two different multimedia packets that are each associated with different transcoder hints, where the Christopoulos transcoder would transcode the first multimedia packet according to its associated transcoder hints and the second multimedia packet according to its associated transcoder hints. Christopoulos, therefore, does not teach or suggest this feature of claim 8 that requires re-encoding the decoded stream using the selected one of the plurality of encoding parameter sets for each of the first and second users to output the encoded stream differently for each of the first and second users with principles set forth by the respective encoding parameter set contrary to the assertions presented by the Examiner's Answer.

The remaining references, Kost, Short and Mantha, do not cure the deficiencies of Christopoulos noted above, nor where these references cited for this purpose. Consequently, Christopoulos in view of Kost, Short and Mantha do not teach or suggest each and every feature of claim 8.

#### *Claim 132 (Group 11)*

Appellant argues claim 132 under a separate heading. Claim 132 requires that the multimedia stream comprise a plurality of different types of multimedia data, the encoder

manager select the first encoding parameter set for encoding only the first type of the plurality of types of data, the encoder system re-encodes only the first type of the plurality of types of data using the selected first encoding parameter set, and the apparatus only sends the re-encoded first type of the plurality of types of data to a requesting device without sending any of the remaining types of the plurality of types of data to the requesting device.

In the Appeal Brief, Appellant demonstrated that the discussion of reformatting data in paragraph [0036] of Christopoulos does not teach or suggest these features of claim 132. Instead, as noted in the Appeal Brief, reformatting of data indicates that its format not the types of content change, hence the use of the term re-formatting rather than filtering or other phrases that express selective delivery of different types of content. Paragraph [0036] of Christopoulos indicates that each multimedia packet includes associated transcoder hints, where these “transcoder hints are used by a transcoder to reformat the multimedia data in accordance with client capabilities, user preferences, link characteristics and/or network characteristics.” Yet, these transcoder hints provide only for reformatting and Christopoulos does not suggest that only certain aspects of the data may be transcoded and sent. Consequently, Appellant concluded in the Appeal Brief that Christopoulos does not teach or suggest the apparatus required by claim 132 that only sends the re-encoded first type of the plurality of types of data to a requesting device without sending any of the remaining types of the plurality of types of data to the requesting device.

The Examiner's Answer disagreed that Christopoulos does not teach or suggest these features of claim 132. Page 70 of the Examiner's Answer cited paragraphs [0008], [0035], [0036], [0039] and [0046] of Christopoulos in support of the position that Christopoulos teaches or at least suggests this feature of claim 132. On page 70, the Examiner's Answer explained that these portions of Christopoulos suggest that the apparatus only sends the re-encoded first type of the plurality of types of data to a requesting device without sending any of the remaining types of the plurality of types of data to the requesting device because the gateway described in these portions of Christopoulos only sends the re-encoded video and not still images or transcoder hints as some of the clients are only capable of receiving video only. Applicant disagrees, noting that nothing in the cited portions of Christopoulos supports the position asserted in the Examiner's Answer in support of the rejection of claim 132.

To illustrate, first consider paragraph [0008] of Christopoulos, which merely describes problems with storing different versions of multimedia data on a server. Paragraph [0008] notes that some clients “can accept only audio, some only video, some low resolution video, some low frame rate video, some color and some grey scale video, and the like.” Nothing in paragraph [0008] of Christopoulos however suggests that a client may only support video and not still images, contrary to the assertions presented in the Examiner’s Answer.

Moreover, none of the remaining cited portions of Christopoulos even mentions or so much suggests that different types of multimedia data may be actively filtered when transcoding is performed. Paragraphs [0035] and [0036] merely indicate how transcoder hints are supplied along with multimedia packets to the transcoder. Paragraph [0039] describes transcoder hints for transcoding images, but none of these still image transcoder hints are described in paragraph [0039] as removing any accompanying video data. Likewise, paragraph [0046] describes transcoder hints for transcoding video data, but none of these video transcoder hints are described in paragraph [0046] as removing any accompanying still images.

Additionally, it is not inherent from paragraph [0008] that the transcoder hints described in the remaining cited paragraphs of Christopoulos. “Under principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitation, it anticipates.”<sup>1</sup> The gateway of Christopoulos does not necessarily, when performing transcoding, filter different types of multimedia data. Quite the contrary, there is no evidence to suggest that Christopoulos describes anything but a transcoder in a gateway that applies transcoder hints to reformat associated multimedia packets. Yet, to show that it does not necessarily follow from paragraph [0008] that the gateway of Christopoulos performs such filtering, consider the alternative where the server may provide multimedia data in these packets that only contains multimedia data acceptable generally by the requesting clients. That is, the server may store the video, still images and audio separately and deliver these different types based on client capabilities, while the transcoder may perform reformatting to ensure that the client receives these types of data in a format acceptable to the clients. Given this alternative, it does not necessarily follow from paragraph [0008] (or, in other words, it is not inherent) that the transcoder hints described in the remaining cited paragraphs of Christopoulos would teach or suggest this feature of claim 132.

---

<sup>1</sup> *In re Cruciferous Sprout Litigation*, 64 USPQ2d 1202, 1206 (Fed. Cir. 2002) (emphasis added) (quoting *MEHL/Biophile Int’l Corp. v. Milgram*, 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1305 (Fed. Cir. 1999))



Kost, as noted above, does teach to only encoding video data without encoding the audio data. However, Kost sends both the audio data and the video data, whether the audio data is encoded or not, as shown by FIG. 1 of Kost. Nothing in Kost teaches or suggests the apparatus required by claim 132 that only sends the re-encoded first type of the plurality of types of data to a requesting device without sending any of the remaining types of the plurality of types of data to the requesting device.

The remaining references, Short and Mantha, do not cure the deficiencies of either Christopoulos or Kost noted above, nor where these references cited for this purpose. Consequently, Christopoulos in view of Kost, Short and Mantha do not teach or suggest each and every feature of claim 132.

### ***Claim 133 (Group 12)***

Appellant argues claim 133 under a separate heading. Claim 133 requires that the multimedia stream comprises audio, video and text data, the encoder manager selects the first encoding parameter set for encoding only the audio data, the encoder system re-encodes only the audio data using the selected first encoding parameter set, and the apparatus only sends the re-encoded audio data to a requesting device without sending any of the video and text data to the requesting device.

In the Appeal Brief, Appellant demonstrated that Christopoulos in view of the other applied references Appellant does not teach or suggest these features of claim 133 for many of the same reasons described above with respect to claim 132. Christopoulos in view of Kost, Short and Mantha do not teach or suggest the feature of claim 133 further requiring that the apparatus only sends the re-encoded audio data to a requesting device without sending any of the video and text data to the requesting device. With respect to claim 132, claim 133 clarifies that the only type of data sent is the re-encoded audio data without sending any of the video and text data to the requesting device. The relied upon portion of Christopoulos merely describes reformatting, which does not teach or suggest this feature of claim 133 for the reasons described above with respect to claim 132, nor is it inherent that the gateway of Christopoulos necessarily performs these asserted operations, again for the reasons described above with respect to claim 132.

The Examiner Answer again relies on paragraph [0008] of Christopoulos in support of the position that the transcoder performs some form of filtering operation because some clients may only accept audio or video data. The reasoning presented in the Examiner's Answer is deficient for the same reasons as that noted above with respect to claim 132. None of the cited paragraphs support this position. Indeed, the paragraphs of Christopoulos discuss image-specific and video-specific transcoder hints, such as paragraphs [0039] and [0046], make no mention that these transcoder hints may only be applied to one type of multimedia data such that other types of the multimedia data are excluded from transcoding. The Christopoulos transcoder seems to only consider the transcoder hints that are associated with the multimedia data, which would imply that the server only sends the types of data that can be consumed by the clients in direct conflict with the assertions presented in the Examiner's Answer. Moreover, once again, because Christopoulos implies that the server provides only those types of multimedia data that can be consumed by the client, it does not necessarily follow (and therefore is not inherent) that the transcoder applies different transcoder hints to actively remove types of multimedia data from being sent to the client.

Again, as noted above, Kost always sends the audio and video data whether the audio data is encoded or not and therefore does not teach this feature of claim 133. The remaining references, Short and Mantha, do not cure the deficiencies of either Christopoulos or Kost noted above, nor where these references cited for this purpose. Consequently, Christopoulos in view of Kost, Short and Mantha do not teach or suggest each and every feature of claim 133.

### **CONCLUSION OF ARGUMENT**

It is earnestly requested that the Examiner's rejections be reversed, and that all of the pending claims be allowed.

Date: 2/24/12  
QUALCOMM Incorporated  
Attn: Patent Department  
5775 Morehouse Drive  
San Diego, California 92121-1714  
Telephone: (858) 845-7855  
Facsimile: (858) 845-3983

By: /Elaine H. Lo/  
Elaine H. Lo, Registration No. 41,158

## APPENDIX: CLAIMS ON APPEAL

Claim 1        An apparatus, operable in a wireless communication system, comprising:

a customer manager to determine a first user preference for selective re-encoding of a multimedia stream for a first user and a second user preference for selective re-encoding of the multimedia stream for a second user;

an encode manager included within wireless service provider equipment of the wireless communication system that receives the multimedia stream and selects at least one of a plurality of encoding parameter sets for each of the first and second user preferences in accordance with an encoding scheme, wherein the encoding scheme includes a first scheme based on the first user preference and a second scheme based on the second user preference, wherein the multimedia stream includes a plurality of different types of data, wherein the plurality of encoding parameter sets include a first encoding parameter set for encoding only a first type of the plurality of types of data, a second encoding parameter set for encoding only a second type of the plurality of types of data different from the first type, a third encoding parameter set for encoding only a third type of the plurality of types of data different from the first and second types and a fourth encoding parameter set for encoding multiple types of the plurality of types of data, and wherein the first user preference and the second user preference each indicates which of the first, second, third and fourth encoding parameter sets to use when encoding the multimedia stream; and

an encoder system included within the wireless service provider equipment for selectively re-encoding the received stream using the selected one of the plurality of encoding parameter sets to output an encoded stream with principles set fourth by the selected one of the plurality of encoding parameter sets,

wherein the first user preference specifies a first demand to provide the multimedia stream at a lower quality of service and a lowest billing rate, and the second user preference

specifies a second demand to provide the multimedia stream at a higher quality of service and a higher billing rate relative to the first demand, and

wherein in response to the first user preference, the encode manager selects one of the plurality of encoding parameter sets that provides a high rate of compression and the lower quality of service at the lowest billing rate, and in response to the second preference, the encoder manager selects one of the plurality of encoding parameter sets that provides the higher quality of service at the higher billing rate.

Claim 2        The apparatus of claim 1, wherein the encoding scheme is selected from a group that includes one or more of a scheme based on a system bandwidth, a scheme based on a wireless receiver capability, a scheme based on a number of users requesting a specific multimedia stream at a designated QoS, a scheme based on a multimedia data type, the scheme based on the user preference and a scheme based on characteristics of a mobile station.

Claim 3        The apparatus of claim 2, wherein the customer manager uses schemes based on the first and second user preferences to generate billing information for the first and second users.

Claim 4        The apparatus of claim 2, wherein the customer manager uses the multimedia data type generated for the first and second users to generate billing information for the first and second users.

Claim 5        The apparatus of claim 2, further comprising an encoder for executing the selected one of the plurality of encoding parameter sets for each of the first and second users based on the encoding scheme.

Claim 6        The apparatus of claim 2, further comprising a plurality of encoders, each for executing one of the plurality of encoder parameter sets for each of the first and second users.

Claim 7        The apparatus of claim 1, wherein the encoder manager includes a bandwidth manager that dynamically determines an available bandwidth for the multimedia stream.

Claim 8        The apparatus of claim 1, further comprising a decoder for receiving the multimedia stream and decoding the received stream to output a decoded stream, wherein the encoder system re-encodes the received stream by re-encoding the decoded stream using the selected one of the plurality of encoding parameter sets for each of the first and second users to output the encoded stream differently for each of the first and second users with principles set forth by the respective encoding parameter set.

Claim 9        The apparatus of claim 1, wherein the encoder manager comprises a bandwidth manager for selecting the one of the plurality of the encoding parameter sets for each of the first and second users in accordance with the encoding scheme.

Claim 10       The apparatus of claim 1, wherein the encoder system comprises an encoder for executing the selected one of the encoding parameter sets for each of the first and second users.

Claim 11      The apparatus of claim 1, further comprising a transceiver for wirelessly transmitting re-encoded streams to mobile stations for each of the first and second users.

Claim 12      The apparatus of claim 1, wherein the encoding system provides an output configurable for handheld devices that require a first frame rate and a first bandwidth.

Claim 13      The apparatus of claim 12, wherein:  
the first frame rate is 10 frames per second; and  
the first bandwidth is within 16 kilo bits per second.

Claim 14      The apparatus of claim 1,  
wherein the received stream comprises a stream of a first resolution, and  
wherein for the first user the encoding system re-encodes the received stream by re-encoding the stream of a first resolution to a stream of a second resolution, a first frame rate and a first bandwidth.

Claim 15      The apparatus of claim 14, wherein:  
the first resolution is a video graphics array (VGA) format; and  
the second resolution and first frame rate are configured for a handheld device.

Claim 16 (Cancelled).

Claim 17      The apparatus of claim 1, wherein for each of the first and second user preferences, the encode manager selects two or more of the plurality of encoding parameter sets in accordance with the encoding scheme.

Claim 18      The apparatus of claim 1,  
                 wherein the first encoding parameter is only for encoding audio data,  
                 wherein the second encoding parameter set is only for encoding video data,  
                 wherein the third encoding parameter set is only for encoding text data, and  
                 wherein for each of the first and second users, the encode manager selects two or more of the first one of the plurality of encoding parameter sets, the second one of the plurality of encoding parameter sets and a third one of the plurality of encoding parameter sets to only encode two or more of an audio type, a video type and a text type of the multimedia stream.

Claim 19 (Cancelled)

Claim 20      The apparatus of claim 1, further comprising a computer configured to receive the multimedia stream from a mobile station.

Claim 21      The apparatus of claim 20, wherein the mobile station is operable in the wireless communication system.

Claim 22      The apparatus of claim 1, wherein the multimedia stream is received using an over the air communication air interface.

Claim 23      The apparatus of claim 1, wherein the multimedia stream is received using an internet connection.

Claim 24      The apparatus of claim 1, further comprising a customer manager for generating billing information based on each of the first and second user preferences.

Claim 25      A method for providing digital multimedia in a wireless communication system, comprising:

determining with a customer manager of the wireless communication system a first user preference for selective re-encoding of a multimedia stream for a first user and a second user preference for selective re-encoding of the multimedia stream for a second user;

receiving the multimedia stream at an encode manager of the wireless communication system;

selecting at least one of a plurality of encoding parameter sets in accordance with an encoding scheme for each of the first and second user preferences,

wherein the encoding scheme includes a first scheme based on a first user preference and a second scheme based on the second user preference,

wherein the multimedia stream includes a plurality of different types of data,

wherein the plurality of encoding parameter sets include a first encoding parameter set for encoding only a first type of the plurality of types of data, a second encoding parameter set



for encoding only a second type of the plurality of types of data different from the first type, a third encoding parameter set for encoding only a third type of the plurality of types of data different from the first and second types and a fourth encoding parameter set for encoding multiple types of the plurality of types of data, and

wherein the first user preference and the second user preference each indicates which of the first, second, third and fourth encoding parameter sets to use when encoding the multimedia stream; and

selectively re-encoding, with an encoder system of the wireless communication system, the received stream using the selected one of the plurality of encoding parameter sets to output an encoded stream with principles set fourth by the selected one of the plurality of encoding parameter sets,

wherein the first user preference specifies a first demand to provide the multimedia stream at a lower quality of service and a lowest billing rate, and the second user preference specifies a second demand to provide the multimedia stream at a higher quality of service and a higher billing rate relative to the first demand, and

wherein in response to the first user preference, the encode manager selects one of the plurality of encoding parameter sets that provides a high rate of compression and the lower quality of service at the lowest billing rate, and in response to the second preference, the encoder manager selects one of the plurality of encoding parameter sets that provides the higher quality of service at the higher billing rate.

Claim 26      The method of claim 25, further comprising selecting the encoding scheme from a group of encoding schemes that includes one or more of a scheme based on a system bandwidth, a scheme based on a wireless receiver capability, a scheme based on a number of users requesting a specific multimedia stream at a designated QoS, a scheme based on a multimedia data type, the scheme based on the user preference and a scheme based on characteristics of a mobile station.

Claim 27      The method of claim 26, further comprising generating billing information for the first and second users using the schemes based on the first and second user preferences.

Claim 28      The method of claim 26, further comprising generating billing information for the first and second users based on the multimedia data type generated for the first and second users.

Claim 29      The method of claim 26, further comprising executing the selected one of the plurality of encoding parameter sets for each of the first and second users using an encoder.

Claim 30      The method of claim 26, further comprising executing the selected one of the plurality of encoding parameter sets for each of the first and second users using a plurality of encoders.

Claim 31 (Cancelled)

Claim 32      The method of claim 25, further comprising receiving the multimedia stream at a decoder and decoding the received stream to output a decoded stream.

Claim 33 (Cancelled).

Claim 34      The method of claim 25, further comprising executing the selected at least one of the encoding parameter sets for each of the first and second users using an encoder.

Claim 35      The method of claim 25, further comprising wirelessly transmitting the re-encoded stream for each of the first and second users.

Claim 36      The method of claim 25, further comprising generating an output, configurable for handheld devices that require a first frame rate and a first bandwidth.

Claim 37      The method of claim 36, wherein:  
the first frame rate is 10 frames per second; and  
the first bandwidth is within 16 kilo bits per second.

Claim 38      The method of claim 25,  
wherein the received stream includes a stream of a first resolution, and  
wherein for the first user the encoding system re-encodes the stream of the first resolution to stream of a second resolution, a first frame rate and a first bandwidth.

Claim 39      The method of claim 38, wherein:  
the first resolution is a video graphics array (VGA) format; and  
the second resolution and first frame rate are configured for a handheld device.

Claim 40      The method of claim 38, wherein:  
the first frame rate is within 10 to 15 frames per second; and  
the first bandwidth is within 16 to 64 kilo bits per second.

Claim 41 (Cancelled)

Claim 42      The method of claim 25, wherein for each of the first and second user preferences,  
selecting at least one of the plurality of encoding parameter sets comprises selecting two or more  
of the plurality of encoding parameter sets in accordance with the encoding scheme,  
wherein selectively re-encoding the received stream comprises selectively re-encoding  
the received stream using the selected two or more of the plurality of encoding parameter sets for  
each of the first and second user preferences.

Claim 43      The method of claim 42,

wherein the first encoding parameter is only for encoding audio data,

wherein the second encoding parameter set is only for encoding video data,

wherein the third encoding parameter set is only for encoding text data,

wherein for each of the first and second users, selecting two or more of the plurality of encoding parameter sets includes selecting two or more of the first one of the plurality of encoding parameter sets, the second one of the plurality of encoding parameter sets and the third one of the plurality of encoding parameter sets, and

wherein selectively re-encoding the received stream comprises selectively re-encoding the received stream using the selected two or more of the plurality of encoding parameter sets for each of the first and second users to only encode two or more of an audio type, a video type and a text type of the multimedia stream.

Claim 44      The method of claim 25, further comprising receiving the multimedia stream from a mobile station.

Claim 45      The method of claim 44, wherein the mobile station is operable in the wireless communication system.

Claim 46      The method of claim 25, further comprising receiving the multimedia stream via a communication air interface.

Claim 47      The method of claim 25, further comprising receiving the multimedia stream via an internet connection.

Claim 48      The method of claim 25, further comprising generating billing information based on each of the first and second the user preferences.

Claim 49      An apparatus, operable in a wireless communication system, comprising:

- means for receiving, within the wireless communication system, a decoded stream;
- means for determining a first user preference for selectively re-encoding the decoded stream for a first user and a second user preference for selective re-encoding of the multimedia stream for a second user;
- means for selecting, within the wireless communication system, at least one of a plurality of encoding parameter sets in accordance with an encoding scheme to use for re-encoding the received decoded stream for each of the first and second user preferences,
- wherein the encoding scheme includes a first scheme based on the first user preference and a second scheme based on the second user preference,
- wherein the decoded stream includes a plurality of different types of data,
- wherein the plurality of encoding parameter sets include a first encoding parameter set for encoding only a first type of the plurality of types of data, a second encoding parameter set for encoding only a second type of the plurality of types of data different from the first type, a third encoding parameter set for encoding only a third type of the plurality of types of data different from the first and second types and a fourth encoding parameter set for encoding multiple types of the plurality of types of data, and

wherein the first user preference and the second user preference each indicates which of the first, second, third and fourth encoding parameter sets to use when encoding the decoded stream; and

means for re-encoding, within the wireless communication system, the received decoded stream to output an encoded stream in accordance with the selected one of the plurality of encoding parameter sets,

wherein the first user preference specifies a first demand to provide the multimedia stream at a lower quality of service and a lowest billing rate, and the second user preference specifies a second demand to provide the multimedia stream at a higher quality of service and a higher billing rate relative to the first demand, and

wherein the means for selecting at least one of a plurality of encoding parameter sets comprises means for selecting, in response to the first user preference, one of the plurality of encoding parameter sets that provides a high rate of compression and the lower quality of service at the lowest billing rate, and in response to the second preference, one of the plurality of encoding parameter sets that provides the higher quality of service at the higher billing rate.

Claim 50     The apparatus of claim 49, further comprising means for selecting the encoding scheme from a group of encoding schemes that includes one or more of a scheme based on a system bandwidth, a scheme based on a wireless receiver capability, a scheme based on a number of users requesting a specific multimedia stream at a designated QoS, a scheme based on a multimedia data type, the scheme based on the user preference and a scheme based on characteristics of a mobile station.

Claim 51      The apparatus of claim 50, further comprising means for generating billing information for the first and second users using the schemes based on the first and second user preferences.

Claim 52      The apparatus of claim 50, further comprising means for generating billing information for the first and second users based on the multimedia data type generated for the first and second users.

Claim 53      The apparatus of claim 50, further comprising means for executing the selected one of the plurality of encoding parameter sets for each of the first and second users using an encoder.

Claim 54      The apparatus of claim 50, further comprising means for executing the selected one of the encoding parameter sets for each of the first and second users using a plurality of encoders.

Claim 55 (Cancelled)

Claim 56      The apparatus of claim 49, further comprising means for receiving the multimedia stream at a decoder and decoding the received stream to output the decoded stream.

Claim 57 (Cancelled)



Claim 58      The apparatus of claim 49, further comprising means for executing the selected one of the encoding parameter sets for each of the first and second users using an encoder.

Claim 59      The apparatus of claim 49, further comprising means for transmitting the re-encoded stream for each of the first and second users.

Claim 60      The apparatus of claim 49, further comprising means for generating an output, configurable for handheld devices that require a first frame rate and a first bandwidth.

Claim 61      The apparatus of claim 60, wherein:  
the first frame rate is 10 frames per second; and  
the first bandwidth is within 16 kilo bits per second.

Claim 62      The apparatus of claim 49, wherein the received stream comprises a stream of a first resolution and means for re-encoding the received stream comprises for the first user, means for re-encoding the stream of the first resolution to a stream of a second resolution, a first frame rate and a first bandwidth.

Claim 63      The apparatus of claim 62, wherein:  
the first resolution is a video graphics array (VGA) format; and  
the second resolution and first frame rate are configured for a handheld device.

Claim 64      The apparatus of claim 62, wherein:

the first frame rate is within 10 to 15 frames per second; and

the first bandwidth is within 16 to 64 kilo bits per second.

Claim 65 (Cancelled)

Claim 66      The apparatus of claim 49

wherein for each of the first and second user preferences, the means for selecting at least one of the plurality of encoding parameter sets comprises means for selecting two or more of the plurality of encoding parameter sets in accordance with the encoding scheme,

wherein the means for selectively re-encoding the received stream comprises means for selectively re-encoding the received stream using the selected two or more of the plurality of encoding parameter sets for each of the first and second user preferences,.

Claim 67      The apparatus of claim 66,  
wherein the first encoding parameter is only for encoding audio data,  
wherein the second encoding parameter set is only for encoding video data,  
wherein the third encoding parameter set is only for encoding text data,  
wherein for each of the first and second users, the means for selecting two or more of the plurality of encoding parameter sets includes means for selecting two or more of the first one of the plurality of encoding parameter sets, the second one of the plurality of encoding parameter sets and the third one of the plurality of encoding parameter sets, and  
wherein the means for selectively re-encoding the received stream comprises means for selectively re-encoding the received stream using two or more of the first, second and third ones of the plurality of encoding parameter sets for each of the first and second users to only encode two or more of an audio type, a video type and a text type of the multimedia stream.

Claim 68      The apparatus of claim 49, further comprising means for receiving the multimedia stream from a mobile station.

Claim 69      The apparatus of claim 68, wherein the mobile station is operable in wireless communication system.

Claim 70      The apparatus of claim 49, further comprising means for receiving the multimedia stream via a communication air interface.

Claim 71      The apparatus of claim 49, further comprising means for receiving the multimedia stream via an internet connection.

Claim 72      The apparatus of claim 49, further comprising means for generating billing information based on each of the first and second the user preferences.

Claim 73      A mobile station, operable in a communication system, comprising:

- a transceiver configured to communicate with a wireless provider system; and
- a processor for displaying a multimedia stream received from the wireless provider system via the transceiver, wherein the multimedia stream is encoded using a first one of a plurality of encoding parameter sets and a second one of the plurality of encoding parameter sets in accordance with an encoding scheme,
- wherein the encoding scheme comprises a first scheme based a first user preference and a second scheme based on a second user preference,
- wherein the multimedia stream includes a plurality of different types of data,
- wherein the plurality of encoding parameter sets include a first encoding parameter set for encoding only a first type of the plurality of types of data, a second encoding parameter set for encoding only a second type of the plurality of types of data different from the first, a third encoding parameter set for encoding only a third type of the plurality of types of data different from the first and second types and a fourth encoding parameter set for encoding multiple types of the plurality of types of data,

wherein the first user preference and the second user preference each indicates which of the first, second, third and fourth encoding parameter sets to use when encoding the multimedia stream,

wherein the first user preference specifies a first demand to provide the multimedia stream at a lower quality of service and a lowest billing rate, and the second user preference specifies a second demand to provide the multimedia stream at a higher quality of service and a higher billing rate relative to the first demand such that in response to the first user preference, one of the plurality of encoding parameter sets that provides a high rate of compression and the lower quality of service is selected to provide the lowest billing rate, and in response to the second preference, one of the plurality of encoding parameter sets is selected to provide the higher quality of service at the higher billing rate.

Claim 74      The mobile station of claimed in 73, wherein the group of encoding schemes includes one or more of a scheme based on a system bandwidth a scheme based on a wireless receiver capability, a scheme based on a number of users requesting a specific multimedia stream at a designated QoS, a scheme based on a multimedia data type, the scheme based on the user preference and a scheme based on characteristics of a mobile station.

Claim 75      The mobile station of claim 74, wherein the schemes based on the first and second user preferences are used to generate billing information for the first and second users.

Claim 76      The mobile station of claim 74, wherein the multimedia data type generated for the first and second users is used to generate billing information.

Claim 77      The mobile station of claim 74, further comprising an encoder for executing the one of the encoder parameter sets for each of the first and second users based on the encoding scheme.

Claim 78      The mobile station of claim 74, further comprising a plurality of encoders, each for executing one of the plurality of encoder parameter sets for each of the first and second users based on the encoding scheme.

Claim 79      The mobile station of claim 74, further comprising a bandwidth manager for determining the available bandwidth for the multimedia stream.

Claim 80      A communication system, comprising:

a customer manager to determine a first user preference for selective re-encoding of a multimedia stream, and a second user preference for selective re-encoding of a multimedia stream;

an encode manager that receives the multimedia stream, wherein the multimedia stream is encoded at a first resolution; and

an encoder system that dynamically customizes a re-encoding of the received stream to a second resolution and a third resolution using encoding parameter sets selected from a plurality of encoding parameter sets to selectively render an encoded stream with principles set forth by the selected encoding parameter sets, wherein the selected encoding parameter sets are determined based on an encoding scheme,

wherein the encoding scheme comprises a first scheme based on a first user preference and a second scheme based on the second user preference,

wherein the multimedia stream includes a plurality of different types of data,

wherein the plurality of encoding parameter sets include a first encoding parameter set for encoding only a first type of the plurality of types of data, a second encoding parameter set for encoding only a second type of the plurality of types of data different from the first type, a third encoding parameter set for encoding only a third type of the plurality of types of data different from the first and second types and a fourth encoding parameter set for encoding multiple types of the plurality of types of data,

wherein the first user preference and the second user preference each indicates which of the first, second, third and fourth encoding parameter sets to use when encoding the multimedia stream, and

wherein the first user preference further specifies a first demand to provide the multimedia stream at a lower quality of service and a lowest billing rate, and the second user preference specifies a second demand to provide the multimedia stream at a higher quality of service and a higher billing rate relative to the first demand, and

wherein in response to the first user preference, the encoder system selects at least one of the plurality of encoding parameter sets that provides a high rate of compression and the lower quality of service at the lowest billing rate and in response to the second preference, the encoder system selects one of the plurality of encoding parameter sets that provides the higher quality of service at the higher billing rate.



Claim 81      A communication system, comprising:

at least one decoder receiving an incoming encoded multimedia stream and decoding the stream to render a decoded stream;

a customer manager to determine a first user preference for selective re-encoding of the decoded stream, and a second user preference for selective re-encoding of a multimedia stream;

at least one encoding system configured for receiving the decoded stream and encoding the decoded stream for first and second users using at least one of a plurality of encoding parameter sets to render an encoded stream;

at least one computer that selects the at least one of the plurality of encoding parameter sets for each of the first and second users based on the first a user preference and the second user preference, wherein the multimedia stream includes a plurality of different types of data, wherein the plurality of encoding parameter sets include a first encoding parameter set for encoding only a first type of the plurality of types of data, a second encoding parameter set for encoding only a second type of the plurality of types of data different from the first, a third encoding parameter set for encoding only a third type of the plurality of types of data different from the first and second types and a fourth encoding parameter set for encoding multiple types of the plurality of types of data, and wherein the first and second user preferences indicate which of the first, second, third and fourth encoding parameter sets to use when encoding the multimedia stream,

wherein the first user preference specifies a first demand to provide the multimedia stream at a lower quality of service and a lowest billing rate, and the second user preference specifies a second demand to provide the multimedia stream at a higher quality of service and a higher billing rate relative to the first demand, and

wherein in response to the first user preference, the at least one computer selects the at least one of a plurality of encoding parameter sets that provides a high rate of compression and the lower quality of service at the lowest billing rate and in response to the second preference, the encoder system selects one of the plurality of encoding parameter sets that provides the higher quality of service at the higher billing rate; and  
at least one wireless transceiver for transmitting an encoded stream.

Claim 82 (Cancelled)

Claim 83 (Cancelled)

Claim 84      The system of Claim 81, wherein the computer further determines which of the plurality of encoding parameter sets to use for each of the first and second users based at least in part on a wireless mobile receiver capability.

Claim 85      The system of Claim 81, wherein the computer further determines which of the plurality of encoding parameter sets to use for each of the first and second users based at least in part on a number of users requesting a specific multimedia stream at a designated QoS for that stream.

Claim 86      The system of Claim 81, wherein the computer further determines which of the plurality of encoding parameter sets to use for each of the first and second users based at least in part on a multimedia data type.

Claim 87 (Cancelled)

Claim 88      The system of Claim 86, wherein a particular user's service classification is used to generate billing information.

Claim 89      The system of Claim 86, wherein characteristics of the encoded multimedia stream are used to generate billing information.

Claim 90      The system of Claim 86, wherein mobile receiver capabilities are used to generate billing information.

Claim 91      The system of Claim 81, wherein at least one of the plurality of encoding parameter sets is capable of encoding a multimedia stream at a resolution of a quarter common intermediate format (QCIF) or smaller.

Claim 92      The system of Claim 81, wherein at least one of the plurality of encoding parameter sets is capable of encoding a multimedia stream at a resolution of a common intermediate format (CIF) or larger.

Claim 93      A method for wirelessly providing digital multimedia within a wireless communication system, comprising:

receiving an encoded multimedia stream;

decoding the stream to render a decoded stream;

selecting at least one of a plurality of encoding schemes to re-encode the stream at a wireless provider facility to render a re-encoded stream based on a first user preference and render a re-encoded stream based on a second user preference , wherein the multimedia streams includes a plurality of different types of data, wherein the plurality of encoding parameter sets include a first encoding parameter set for encoding only a first type of the plurality of types of data, a second encoding parameter set for encoding only a second type of the plurality of types of data different from the first type, a third encoding parameter set for encoding only a third type of the plurality of types of data different from the first and second types and a fourth encoding parameter set for encoding multiple types of the plurality of types of data,

wherein the first and second user preferences each indicates which of the first, second, third and fourth encoding parameter sets to use when encoding the multimedia stream, and

wherein the first user preference specifies a first demand to provide the multimedia stream at lower quality of service and a lowest billing rate and the second user preference specifies a second demand to provide the multimedia stream at a higher quality of service and a higher billing rate relative to the first demand;

selecting a first one of the plurality of encoding parameter sets that provides a high rate of compression and the lower quality of service at the lowest billing rate and selecting a second one of the plurality of encoding parameter sets that provides the highest quality of service at the higher billing rate; and

wirelessly transmitting the re-encoded streams to at least one wireless mobile station.

Claim 94      The method of Claim 93, wherein the selecting act is undertaken dynamically.

Claim 95 (Cancelled)

Claim 96      The method of Claim 93, wherein the selecting act is undertaken based at least in part on a wireless mobile receiver capability.

Claim 97 (Cancelled)

Claim 98      The method of Claim 93, comprising using a particular user's service classification to generate billing information.

Claim 99      The system of Claim 93, comprising using characteristics of the encoded multimedia stream to generate billing information.

Claim 100     The system of Claim 93, comprising using mobile receiver capabilities is used to generate billing information.

Claim 101     The method of Claim 93, wherein the selecting act is undertaken based at least in part on a multimedia data type.

Claim 102     A wireless provider system, comprising:

means for decoding a received encoded multimedia stream, wherein the encoded multimedia stream includes a plurality of different types of data;

first means for re-encoding only a first type of the plurality of types of the data;

second means for re-encoding only a second type different from the first type of the plurality of types of the data;

third means for re-encoding only a third type different from the first and second types of the plurality of types of the data;

fourth means for re-encoding multiple types of the plurality of types of the data; and

logic means for determining which one of the first, second, third and fourth means for re-encoding the stream to use for a first user and for a second user, based on a first user preference and a second user preference, wherein the first user preference and the second user preference each indicates which of the first, second, third and fourth means to use when encoding the multimedia stream, and

wherein the first user preference further indicates which of the first, second, third and fourth means to use when encoding the multimedia stream based a first demand specified in the first user preference to provide the multimedia stream at lower quality of service and a lower billing rate, and wherein the second user preference specifies a second demand to provide the multimedia stream at a higher quality of service and a higher billing rate relative to the first demand.

Claim 103 (Cancelled)

Claim 104 (Cancelled)

Claim 105     The system of Claim 102, wherein the first and second user preferences include a factor that defines a wireless user characteristic.

Claim 106     The system of Claim 102, wherein the first and second user preferences include a factor that defines a multimedia data type.

Claim 107 (Cancelled)

Claim 108     The system of Claim 102, further comprising means for generating billing information based on a user service classification.

Claim 109     The system of Claim 102, further comprising means for generating billing information based on characteristics of the encoded multimedia stream.

Claim 110     The system of Claim 102, further comprising means for generating billing information based on mobile receiver capabilities.

Claim 111 The system of claim 102, wherein first and second user preferences include a factor selected from group of factors that include a factor based on a system bandwidth, a factor based on a current available system bandwidth, a factor based on a wireless user characteristic, a factor based on a number of users requesting a specific multimedia stream at a designated QoS a factor based on a multimedia data type and the factor based on the wireless user preference.

Claim 112 A communication system, comprising:

decoder means for receiving incoming encoded multimedia streams and decoding the streams to output decoded streams;

encoder means for receiving and encoding at least one of the decoded streams using a plurality of encoding parameter sets to output an encoded stream for a first user and an encoded stream for a second user,

wherein the encoder means further includes means for selecting encoding parameters sets based on a first user preference and the second user preference, wherein the multimedia streams include a plurality of different types of data, wherein the plurality of encoding parameter sets include a first encoding parameter set for encoding only a first type of the plurality of types of data, a second encoding parameter set for encoding only a second type of the plurality of types of data different from the first type, a third encoding parameter set for encoding only a third type of the plurality of types of data different from the first and second types and a fourth encoding parameter set for encoding multiple types of the plurality of types of data, wherein the first and second user preferences each indicates which of the first, second, third and fourth encoding parameter sets to use when encoding the multimedia stream,



wherein the first user preference specifies a first demand to provide the multimedia stream at lower quality of service and a lowest billing rate, and the second user preference specifies a second demand to provide the multimedia stream at a higher quality of service and a higher billing rate relative to the first demand

wherein in response to the first user preference, the encoder means selects a first one of a plurality of encoding parameter that provides a high rate of compression and the lower quality of service at the lowest billing rate and in response to the second user preference, selects a second one of the plurality of encoding parameter sets that provides the highest quality of service at the higher billing rate.

Claim 113 (Cancelled)

Claim 114 (Cancelled)

Claim 115     The system of Claim 112, wherein the encoder means includes means for determining which of the plurality of encoding parameter sets to use for each of the first and second user preferences based at least in part on a wireless mobile receiver capability.

Claim 116     The system of Claim 112, wherein the encoder means includes means for determining which of the plurality of encoding parameter sets to use for each of the first and second user preferences based at least in part on a number of users requesting a specific multimedia stream at a designated QoS for that stream.

Claim 117     The system of Claim 112, wherein the encoder means includes means for determining which of the plurality of encoding parameter sets to use for each of the first and second user preferences based at least in part on a multimedia data type.

Claim 118     The system of Claim 112, wherein the encoder means includes means for determining which of the plurality of encoding parameter sets to use for each of the first and second user preferences based at least in part on a wireless user preference.

Claim 119     The system of Claim 112, further comprising a billing means for generating billing information based on a particular user's classification.

Claim 120     The system of Claim 112, further comprising a billing means for generating billing information based on characteristics of the encoded multimedia stream a particular user's classification.

Claim 121     The system of Claim 112, further comprising a billing means for generating billing information based on mobile receiver capabilities.

Claim 122     The system of Claim 112, wherein at least one of the plurality of encoding parameter sets comprises an encoding parameter set that is used to encode the multimedia stream at a resolution of a quarter common intermediate format (QCIF) or smaller.

Claim 123     The system of Claim 112, wherein at least one of the plurality of encoding parameter sets comprises an encoding parameter set that is used to encode the multimedia stream at a resolution of a common intermediate format (CIF) or larger.

Claim 124     The system of Claim 81, wherein the computer determines which of the plurality of encoding parameter sets to use for each of the first and second user preferences based at least in part on a system bandwidth.

Claim 125     The system of Claim 81, wherein the computer determines which of the plurality of encoding parameter sets to use for each of the first and second user preferences based at least in part on a current available system bandwidth.

Claim 126     The method of Claim 93, wherein the selecting act is undertaken at least in part based on a bandwidth.

Claim 127     The system of Claim 102, wherein first and second user preferences include a factor that defines a system bandwidth.

Claim 128     The system of Claim 102, wherein first and second user preferences include a factor that defines a current available system bandwidth.

Claim 129     The system of Claim 112, wherein the encoder means further includes means for determining which of the plurality of encoding parameter sets to use for each of the first and second user preferences based at least in part on a system bandwidth.

Claim 130     The system of Claim 112, wherein encoder means further includes means for determining which encoding parameter set to use for each of the first and second user preferences based at least in part on a current available system bandwidth.

Claim 131     The communication system of Claim 112, wherein the system comprises wireless service provider equipment that wirelessly communicates re-encoded versions of the multimedia stream to different wireless mobile stations.

Claim 132     The apparatus of claim 1,  
                 wherein the multimedia stream comprise a plurality of different types of multimedia data,  
                 wherein the encoder manager selects the first encoding parameter set for encoding only the first type of the plurality of types of data,  
                 wherein the encoder system re-encodes only the first type of the plurality of types of data using the selected first encoding parameter set, and  
                 wherein the apparatus only sends the re-encoded first type of the plurality of types of data to a requesting device without sending any of the remaining types of the plurality of types of data to the requesting device.

Claim 133     The apparatus of claim 1,

wherein the multimedia stream comprises audio, video and text data,

wherein the encoder manager selects the first encoding parameter set for encoding only the audio data,

wherein the encoder system re-encodes only the audio data using the selected first encoding parameter set, and

wherein the apparatus only sends the re-encoded audio data to a requesting device without sending any of the video and text data to the requesting device.

## **APPENDIX: EVIDENCE**

None

## **APPENDIX: RELATED PROCEEDINGS**

None